

INSTALLATION MANUAL



**Before attempting to install or operate this product, please read these instructions carefully.
Failure to do so may result in damage to the product and may void the warranty.**

OVERVIEW

1. System Components
2. Determine the drive-thru type
3. Install the battery charger and begin charging batteries
4. Pull wire
5. Install the vehicle detector loops
6. Install the speaker post/menu board
7. Install the base station
8. Install the ACM
9. Connecting the system
10. Testing the system

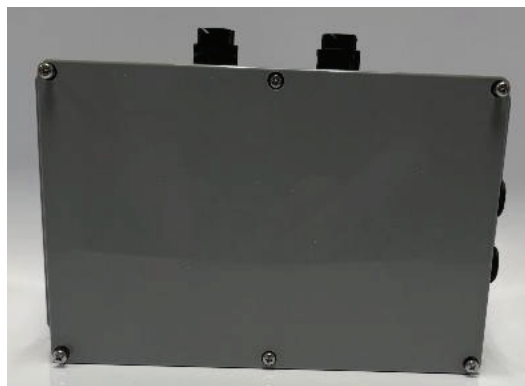
SYSTEM COMPONENTS

- 1 Apex Base Station
- 1 Base Station Power Supply
- 1 Apex Control Module (ACM, gray box)
- 1 Speaker Post Adapter (small black box)
- 1 RF6200DM Microphone
- 1 RF Speaker
- 1 10 Foot Cat 5 Patch Cable
- 2 Foot Spool of Cat 5 Cable
- 200 Foot 2-Wire Cable
- 4 RJ45 Jacks
- 2-3 Two-wire pigtail connector
- Apex Speaker Post Foam Kit
- Apex Headsets
- Apex Headset Batteries
- Apex Battery Charger
- Apex Headset Rack

SYSTEM COMPONENTS



Apex Base Station



Apex Control Module



Speaker Post Adapter



RF6200DM Microphone



RF Speaker



Two-Wire Pigtail Connector

DETERMINE THE DRIVE-THRU TYPE

Apex Advance supports the following drive-thru types:

- A **single-lane drive-thru** is the most common installation consisting of one lane of traffic with one order point and one or more service windows.
- A **dual-lane drive-thru** consisting of two lanes of traffic with two order points that merge to one or more service windows.
- A **tandem-lane drive-thru** consisting of one lane of traffic with two order points, one in front of the other.

INSTALLING THE BATTERY CHARGER

1. Select a placement location that is easy to reach but out of the way.
2. Connect the power supply to the battery charger and then to the wall outlet.
3. Insert a battery into each open slot on the charger and verify the LED charge indicator is lit.
4. Charge the batteries until they are fully charge and the charge indicator light turns green.

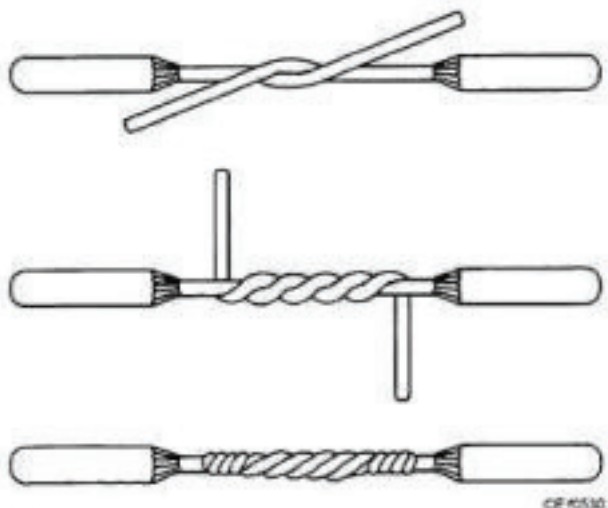
PULLING CABLE

New Cat 5 cable and a separate two-wire cable must be pulled through the conduit from the speaker post or menu board to a location near the base. You must use the cables provided with the system. Never reuse existing cable. The use of any other cable may cause audio issues, damage the system, and may void the warranty.

The Cat 5 cable is used for the audio transmission and the two-wire cable is used for the in-ground vehicle detector loop.

INSTALLING THE SPEAKER POST

1. Connect a RJ45 jack to the end of the Cat 5 cable in the post using standard ethernet wiring protocol.
2. Connect the two-wire cable in the post to the leads of the in-ground loop using a Western Union Splice, solder, and tape.



a. Western Union Splice

3. Place the RF6200DM microphone on the top shelf of the speaker post in the foam box provided.
4. Place the RF speaker on the bottom shelf of the speaker post in the foam box provided.
5. If using speaker boxes or a horizontal speaker post place the mic in the spot that will be closest to the car window and the speaker in the spot farthest from the car window.
6. Place the speaker post adapter in the center of the speaker post. If using speaker boxes place the speaker post adapter inside the menu board.
7. Plug the Cat 5 cable into the RJ 45 socket on the speaker post adapter.
8. Plug the microphone and speaker into the appropriate socket on the speaker post adapter.

INSTALLING THE BASE STATION

Choose the best location for the base station.

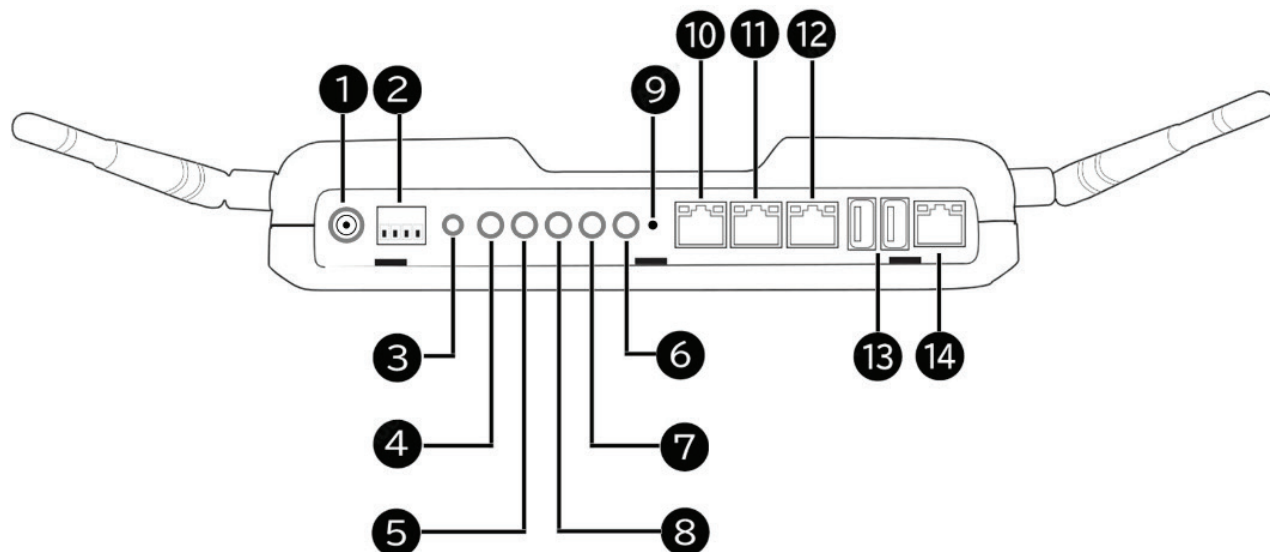
The base station should be centrally located in the store to give the best coverage. It should be located near where the order takers are. The base station should be mounted in a convenient location, a minimum of five feet off the floor. The base station should not be mounted near the ceiling or any other location that makes it difficult to operate the touch screen. Other things to consider:

- The base should be located within six feet of an electrical outlet.
- The base should be mounted away from equipment that can cause liquid or heat damage.
- The base should be mounted away from large sources of stainless-steel that can limit or block the signal.

INSTALLING THE APEX CONTROL MODULE

The Apex Control Module (large gray box) should be mounted on the wall three to four feet away from the base station. The Cat 5 cable and the two-wire cable coming from the speaker post will be plugged into the ACM.

CONNECTING THE SYSTEM TOGETHER



- | | |
|---|-------------------------------------|
| 1. Power | 8. 3.5mm Audio Port, Aux 1 Audio In |
| 2. External Vehicle Detector Output | 9. Base Station Reset Button |
| 3. 2.5mm Audio Port, Alert Circuit X 3 | 10. RJ45 for Future Lane Expansion |
| 4. 3.5mm Audio Port, Aux 2 Audio In | 11. RJ45, Lane 2 to Speaker Post |
| 5. 3.5mm Audio Port, Aux 2 Audio Out | 12. RJ45, Lane 1 to Speaker Post |
| 6. 3.5mm Audio Port, Kitchen Speaker for Lane 1 and 2 | 13. Dual USB Ports |
| 7. 3.5mm Audio Port, Aux 1 Out | 14. RJ45, Network Port |

- Remove the blue port cover from network port (#14) and connect a Cat 5 ethernet cable from the network port to the store's external network. This provides the base station with internet access.
- Remove the green port cover from the lane 1 port (#12) and connect one end of the 10-foot Cat 5 patch to it.
- Connect the other end of the 10-foot Cat 5 patch cable to the RJ45 port on the ACM marked *Base*.
- Connect the Cat5 cable coming from the speaker post to the RJ45 port on the ACM marked *Post*.
- Connect the two-wire pigtail connector to the two-wire cable coming from the loop in the speaker post using a Western Union splice, solder, and tape.
- Connect the two-wire pigtail to the port on the ACM marked *Order*.
- Once all connections between the base, ACM, and speaker post have been made, connect the base station power supply to the base and secure the power supply neatly to the wall beneath the base.
- Plug the power supply into the wall outlet. The base station should power on.

TESTING THE SYSTEM

Once the system has fully booted system testing can begin. A headset with a fully charged battery is required.

1. Contact RF support at (800) 598-2370 to ensure they can connect to the base station through remote support.
2. Park a vehicle at the speaker post during testing.
3. Verify that the detection tone plays on the headset. This tone will stop once a communications channel has been opened from the headset to the speaker post.
4. Press the L1 button on the headset to open communications with the speaker post.
5. Test communications and adjust the volume levels for the microphone and speaker as needed to obtain the clearest sound for the environment.

ADJUSTING THE AUDIO LEVELS

Adjustments to the audio levels can be found in two different menus on the base station. Volume levels can be found in the *Volumes* menu and noise reduction settings are found in the *Audio* menu.

A password is required to enter these menus. The default password is **RF1989**.

VOLUME LEVELS

The following volume levels can be adjusted:

1. **Order Taker Sidetone.** Order Taker sidetone adjusts the talk-back volume level on the order taker headset. This volume should be set to 50%.
2. **Headset Vehicle Detector Indication.** This controls the volume of the car arrival tone on the headset. This should be set to the level the store wants the tone to be. 50% is the default setting.
3. **Lane 1 Kitchen Speaker Level.** This sets the volume level of the kitchen speaker if one is used. Volume should not exceed 50%.
4. **Lane 1 Inbound.** This is the volume of the microphone coming from the speaker post.
5. **Lane 1 Outbound.** This is the volume going out to the speaker post.
6. **Aux 1 In/Out.** Not typically used. Volume levels should be turned off.

AUDIO CONFIGURATION

All of the noise reduction settings can be found in the Audio menu. Noise reduction settings should be set as low as possible to obtain clear sound. The higher the noise reduction settings are set the more processed and unnatural the sound will be. The following settings can be adjusted:

1. Noise Suppression on Speaker – This reduces ambient kitchen noise picked up by an open mic on a headset and sent to the speaker post. This should be initially set to 20%.
2. Noise Suppression on Microphone – This reduces ambient noise picked up on the microphone in the speaker post. This needs to be tuned to the environmental conditions of the drive-thru. Initial setting should be 50%.
3. Audio Effects – These are filters that remove ambient noise in certain frequency ranges.
 - a. Echo Canc. – This reduces the echo effect between the microphone and speaker in the speaker post.
 - b. Hiss Red. – Reduces electronic white-noise.
 - c. LP Filter – Reduces low frequency noise.
 - d. HP Filter – Reduces high frequency noise.

MICROPHONE GAIN

The RF6200DM microphone used with Apex Advanced has advanced gain control that allows the sensitivity of the mic to be increased to allow better sound capture in a less-than-ideal microphone placement. Care must be given to increasing the sensitivity because it increases the capture of all sound, ambient noise as well as the customer voice. Increasing the sensitivity often requires increasing the noise reduction in the system and can result in distorted audio.

The mic gain has to be set once during the initial install. The setting for this is under the engineering menu and will require the engineering password to access the control. Contact RF support to get the engineering password at the time of install.

In the Engineering menu you will find the mic gain setting. Set the mic gain to 100%. After 5 seconds set the gain to 10%. Do not increase the mic gain past 10% unless instructed to do so by RF support.